

**SELF-SYNCHRONIZATION OF AN OPTICAL PACKET NETWORK USING
SEED PULSES EXTRACTED FROM WITHIN THE PACKETS**

ABSTRACT OF THE INVENTION

5 A method and system for self-synchronizing an optical packet network by
selecting a seed pulse from among the data pulses within a packet having no
synchronization marker, transforming the seed pulse to be optically distinguishable
from the remaining data pulses after the packet has been transmitted, and extracting that
seed pulse for use in synchronizing the operation of the network. In one embodiment,
10 the process is practiced using a intensity modifier (such as a fast-saturation, slow-
recovery amplifier) to modify the seed pulse intensity, and an intensity discriminator
(such as an unbalanced NOLM, or a dispersion-shifted fiber and bandpass filter) to
extract the differentiated seed pulse.

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